



Barry University Leverages a Network Appliance™ IP SAN to Deliver Fast, Reliable Exchange Mail Services to 10,000 Students and Faculty

“Deploying the NetApp IP SAN solution for our Exchange 2003 infrastructure has eliminated four-day backup windows and enabled our team to recover from a virus attack in just 45 minutes—that’s versus the two days it would previously have taken.”

JOHN BEAUBRUN
Vice Provost, Dean, and CTO
Barry University

Key Highlights

- **LOCATION**
Miami Shores, Florida
- **INDUSTRY**
Education
- **KEY BUSINESS CHALLENGES**
Accommodate rapid data growth
Replace resource-draining DAS
Streamline management
Increase performance and uptime
- **KEY SOLUTIONS COMPONENTS**
NetApp iSCSI/NAS storage
NetApp SnapRestore® and SnapManager® software
NetApp professional services
VERITAS NetBackup software
- **KEY BUSINESS BENEFITS**
Simple, flexible storage structure
Scalability to tens of 1,000s of users
Fast, reliable user service
Managed in one hour/week

The Customer

Barry University (www.barry.edu) is an international Catholic university offering more than 60 undergraduate and accelerated bachelor’s programs for working adults and more than 50 graduate programs. Founded in 1940 and located seven miles from Miami, Florida, the university draws students from 49 states and 80 countries. The *U.S. News & World Report Best Colleges Edition* has recognized the school for both campus diversity and academic quality.

The Challenges: Exponential Data Growth, Complex Administration, and Four-Day Backup Windows

Four years ago, the IT staff at Barry University was short on sleep. All-too-frequent server crashes, the occasional virus, and constant capacity management kept administrators working nonstop to maintain mail services for more than 10,000 students, faculty, and staff. Justin Moses, systems and messaging administrator at Barry, explains that the university had simply outgrown the direct-attached storage (DAS) structure it was using for Microsoft® Exchange data. “As our user community took advantage of the full Exchange feature set, demand for storage exploded. Trying to manage that increased capacity across two dozen DAS servers created unworkable administrative overhead.”

Downtime had become a serious issue. “Backing up each Exchange server individually took far too long—sometimes as much as four days—and required someone in attendance to change tapes,” continues Moses. “But the real challenge was recovery. One major outage left many of our students and faculty without e-mail for three days while we worked to restore Exchange stores from tape. With university operations dependent upon e-mail, we cannot afford to have the structure hiccup, even for 15 minutes.”

The Solution: NetApp IP SAN Solution for Exchange and SQL Server

A competitive evaluation and on-site test led the Barry team to deploy a NetApp storage system with NetApp SnapRestore and SnapManager for Microsoft Exchange software. To support an upgrade to Exchange 2003 and expand capacity, the university deployed to a NetApp fabric-attached storage (FAS) system configured with the iSCSI protocol.

Today, the university leverages the NetApp IP SAN to host production Exchange 2003 services for more than 18,000 mailboxes. The NetApp deployment enabled the IT team to run its entire messaging infrastructure on just two Exchange servers. The NetApp IP SAN also supports SQL Server databases for university applications, including interdepartmental services and student and prospect tracking.

CUSTOMER SUCCESS STORY

Network Appliance storage solutions offer customers seamless data management, simplified backup and recovery, and effortless remote office access to data at the lowest total cost of ownership.

In addition to being fully supported by Microsoft, the iSCSI protocol enabled utilization of the university's existing IP network and expertise. Completely Ethernet-based, easy to manage, and a proven open-standard solution, the IP SAN provided a high-value foundation for the Exchange 2003 upgrade. "My team estimated that alternative FC SAN products would have required more than \$100,000 of infrastructure modifications, as well as specialized administrative training and expertise," says John Beaubrun, vice provost, dean, and CTO of Barry University.

Business Benefits: Dependable Service with Minimal Overhead, Rapid Backup/Recovery

Beaubrun says that today all of the university's mission-critical applications leverage NetApp storage, including calendaring and scheduling, admissions inquiries, interoffice correspondence, and course assignment and materials exchanges that utilize the Exchange system. "More than 10,000 people count on Exchange services being available. In many cases our operations are so dependent on the e-mail system that if it's down, the school's business comes to a standstill. Losing e-mail toward the end of a term could keep us from closing out the semester. Reliability and performance have been the shining lights of the NetApp solution."

In addition to high reliability, the NetApp IP SAN maximizes uptime by effectively eliminating backup and restore issues. NetApp SnapManager software verifies Snapshot™ copies of data stores, confirming immediately that backup files are intact. "Without SnapManager," says Moses, "an administrator would have to verify the validity of backups by setting up an Exchange server in a test environment and doing a restore of the Exchange data. That's not only time-consuming but requires installing multiple test servers."

Instead of taking a minimum of a few hours per server and requiring on-site management, unattended backup processes now take a matter of minutes. Every five hours a Snapshot copy is created that includes only data that has changed since creation of the previous Snapshot copy. Up to six backup copies of the university's data, including approximately 2TB of Exchange databases, are stored on the NetApp system for nearly instantaneous recovery. On a daily basis, online backup copies are copied to tape using VERITAS NetBackup software.

"Snapshot copies also give us a much more recent version to recover and a much faster recovery solution, should that be necessary," Moses says. NetApp SnapRestore software allows the university to recover almost instantly from a range of disaster scenarios. In minutes, SnapRestore software can recover multigigabyte Exchange database volumes so that operations can be quickly resumed.

"We recently had a problem with a virus and had to restore a corrupted Exchange database," cites Moses. "We were able to roll back to a previous Snapshot copy and restore a 30GB database in less than 45 minutes. And, because the logs were still there, we recovered back up to the minute. In the past, that process would have cost us two days of work—one for lost data (we would have had to use the previous night's backup) and one for the time it took to complete the recovery."

Beaubrun comments that overall, the NetApp IP SAN solution helps ensure continuance of critical services, without consuming significant administrative resources. This is especially important because over the past 12 months the university has doubled capacity on the NetApp systems, a growth rate expected to continue. "NetApp systems require an absolute minimum of staff time while enabling us to expand storage on-the-fly, with no downtime," says Moses. "We added a shelf of disk, for example, in the middle of the day—the longest part of the process was plugging it into the rack. It's equally easy to reallocate capacity. Despite the rapid growth in data, we spend less than an hour a week administering the NetApp systems."

"Our IT team understands the critical role of the NetApp solution," concludes Beaubrun, "but rank-and-file users often underestimate the value of their data—until they lose it in a system crash on low-cost commodity storage. Our experience tells us that when it absolutely matters, it has to be NetApp."

Unleash the Power of Information

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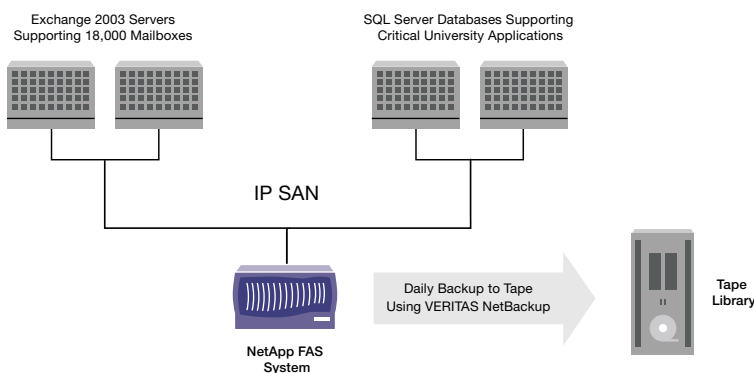


Figure 1) Barry University IP SAN storage infrastructure.



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